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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,102	02/04/2004	Paul V. Cooper	23438.00001	3968

7590 03/06/2007
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EXAMINER

KASTLER, SCOTT R

ART UNIT	PAPER NUMBER
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1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/773,102

Applicant(s)

COOPER, PAUL V.

Examiner

Scott Kastler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 24-33 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Russian'401. Russian'401 teaches a device including an inlet structure (2) with a plurality of holes (6) through which molten metal can pass, and a displacement structure comprising rotor blades (4) attached to the inlet structure, where in use, the inlet structure and displacement structure rotate together, thereby showing all aspects of the above claims since the manner or method of use of the claimed device (in a molten metal pump) cannot be relied upon to fairly further limit claims to the device itself. see MPEP 2114.

Claims 1 and 4-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Duenkelmann'060. Duenkelmann'060 teaches a structure which acts as a molten metal pump (see col. 2 lines 49-51), including an inlet structure of a plurality of holes or openings and rotor blades acting as displacement structures connected thereto each made of graphite or other refractory ceramics (see col. 1 line 63 to col. 2 line 16 for example) where there can be 3 inlets and rotor blades, and where the device includes a threaded connective portion (4) thereby showing all aspects of the above claims.

Claims 1, 2 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Scheffler'133. Scheffler'133 teaches a molten metal pump including an inlet structure made of

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refractory ceramic (16) and attached displacement structures comprising rotor blades (41) which rotate along with the inlet structure, thereby showing all aspects of the above claims.

Claims 1-4, 7, 12-14, 16-18, 22, 24, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Rawson et al'383. Rawson et al'383 teaches a molten metal pump (in the figure) including a motor (11), a pump base with a pump chamber (29) and discharge (30) in the form of a tangential molten metal conduit connected to the chamber (29) without cement, and a device including an inlet (20) with an opening, and a connected displacement structure (22, 24, 24A) including a rotor blade, where the inlet structure is made of ceramic, and including a bearing surface (13) comprising one or more grooves, and a drive shaft (12) connecting the motor (11) to the device (20) allowing the inlet structure (20) and displacement device (22,24) to rotate together, thereby showing all aspects of the above claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15, 19-21 and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawson et al'383 in view of Dunkelmann'060. as applied to claim 1 above, Rawson et al'383 shows all aspects of the above claims except the use of graphite as the inlet and rotor material, the inclusion of a gas introduction means to the device, or the use of a threaded connection for connection of the drive shaft (12) to the motor (11). Dunkelmann'060 teaches that in order to more effectively disperse gas in a molten metal, inclusion of a gas introduction device (8) within the pump was known in the art at the time the invention was made, as was the use of the instantly claimed graphite components and connection means. Because Rawson et al'383 would also desire improved gas delivery, where gas delivery is desired, as well as requiring some type of inlet and rotor material and drive shaft-motor connection, motivation to employ the gas delivery means taught by Dunkelmann'060 as well as the materials and connection means recited as typical for molten metal pumps, in the molten metal pump taught by Rawson et al'383, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Allowable Subject Matter

Claim 23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed on 12/29/2006 have been fully considered but they are not persuasive. Applicant's arguments that Russian'401 does not anticipate instant claims 1 and 2 because Russian'401 does not teach a device for use in a molten metal pump, a discharge through which a stream of molten metal is defined, a displacement structure including one of more rotor blades, or a pump and pump base are not persuasive. As stated in the above rejection Russian teaches a series of discharges (6) through which molten metal may pass as well as a displacement structure including blades (4). As stated above, with respect to claims 1 and 2, the manner or method of use of the claimed device (in a molten metal pump) cannot be relied upon to fairly further limit claims to the device itself. see MPEP 2114.

Applicant's arguments that Dunkelman'060 does not teach a device for use in a molten metal pump, a discharge through which a stream of molten metal is defined, a displacement structure including one of more rotor blades, or a pump and pump base are also not persuasive. AS stated in the above rejection, Dunkelman'060 teaches a structure which acts as a molten metal pump (see col. 2 lines 49-51), including an inlet structure of a plurality of holes or openings through which molten metal can pass and rotor blades acting as displacement structures.

Applicant's further argument that neither of Scheffler'133 or Rawson'383 disclose rotating inlet ports and rotating displacement structures are not persuasive. Again, as stated in the above rejections, with respect to Scheffler'133, inlet rotor structure (16) rotates along with rotor blades (41). With respect to Rawson'383, although the blades and inlet are rigidly fixed together, they both rotate, and have to rotate together, thereby meeting the requirements of the instant

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claims, since the instant claims do not recite that the inlet and displacement structure be independently rotatable.

Applicant's further argument that there is no motivation to combine the teaching of Dunkelman'060 with that of Rawson'383 is not persuasive because as stated in the above rejection, because Rawson et al'383 would also desire improved gas delivery, where gas delivery is desired, as well as requiring some type of inlet and rotor material and drive shaft-motor connection, motivation to employ the gas delivery means taught by Dunkelmann'060 as well as the materials and connection means recited as typical for molten metal pumps, in the molten metal pump taught by Rawson et al'383, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (571) 272-1243. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Scott Kastler
Primary Examiner
Art Unit 1742

sk